NOTE XX.

FAUNA SIMALURENSIS. LEPIDOPTERA RHOPALOCERA, FAM. PAPILIONIDAE.

BY

R. VAN EECKE.

(With 7 textfigures and plate 9).

Amongst a very large number of insects from the island Simalur, west of North Sumatra, received from Mr. Edw. Jacobson and collected by himself, the Papilionidae were represented by eight species, which are common and largely distributed. Two of them were each represented by a specimen, which prooved to be a new variety from that remarkable island. Comparing this material with that of the islands Nias and Sumatra, it seems to me that the fauna of these islands will differ the more and more from that of Sumatra, or that there is a strive after conformity.

The following is an enumeration of the species received for the collection of the Leyden Museum.

1. *Leptocircus meges* Zinck. nov. var. *squamosus*. ♀. N°. 4001.

Hab. Pulu Babi (an islet very near to Simalur).

It should have been of interest to me to know either we had to do with a new species or with a new variety, but with a single female specimen this question could not be decided, and among the Leptocircinae in the collection of our Museum (not less than 67 specimens), there was no one agreeing with the female from Pulu Babi, though the following localities were represented by one or more specimens: West-Java, Sumatra, Nias, Malacca, Assam, Philippines, Celebes, Biliton and Borneo.

According to the external morphological characteristics, viz. the pattern, size, colour, the density of the squamae on the fore-wings and the size of the fenestrae, I could divide this material into six groups.

On Western Java seem to live two species; on Sumatra also two; on Nias two; on Celebes one; on Biliton one and on Borneo one.

As to the catalogue of Kirby (pag. 568), that of the British Museum (pag. 86), Dr. K. Jordan in „Die Grossschmetterlinge der Erde" von Seitz (pag. 108) and the „Genera Insectorum" of Wytsman (Leptocircinae), the number of species or varieties is not exactly known. Kirby accepts one species (*Lept. curius* Fabr.) followed by five varieties (*virescens* Butl., *ennius* Feld., *Wilsonii* Reak, *decius* Feld. and *meges* Zinck.). In the catalogue of the British Museum we find three species (*curius*, *meges* and *corion* G. R. Gray). Last not least Wytsman likes to accept in this genus six species „par la constitution des ailes antérieures."! Dr. Jordan is right, describing two species: *curius* Fabr. and *meges* Zinck.

It is well known that the claw of *Leptocircus curius* is bifid, that of *Lept. meges* simple. This characteristic, together with the presence or absence of smell-hairs in the males, is important enough to call it specific, but as I liked to have some more certainty, I have made a preparate of the male genitalia of both species. Moreover there must be a criterium for the other forms of *Leptocircus* and I have prepared also the male genitalia of *Lept. ennius* Feld. (from Celebes) and of the variety of Nias, *Lept. libelluloides* Fruhst.

The results of these researches were, that *curius* and *meges* are very easy to distinguish by the harpae and by the penis. The annulus has an oral processus, which also differs in the two species. The figures on the next page will explain the differences more clearly.

Lept. ennius, which I thought to be also a real species, is a variety of *meges* Zinck., only found on Celebes; *Lept. libelluloides* is a local variety of *Lept. curius* from the

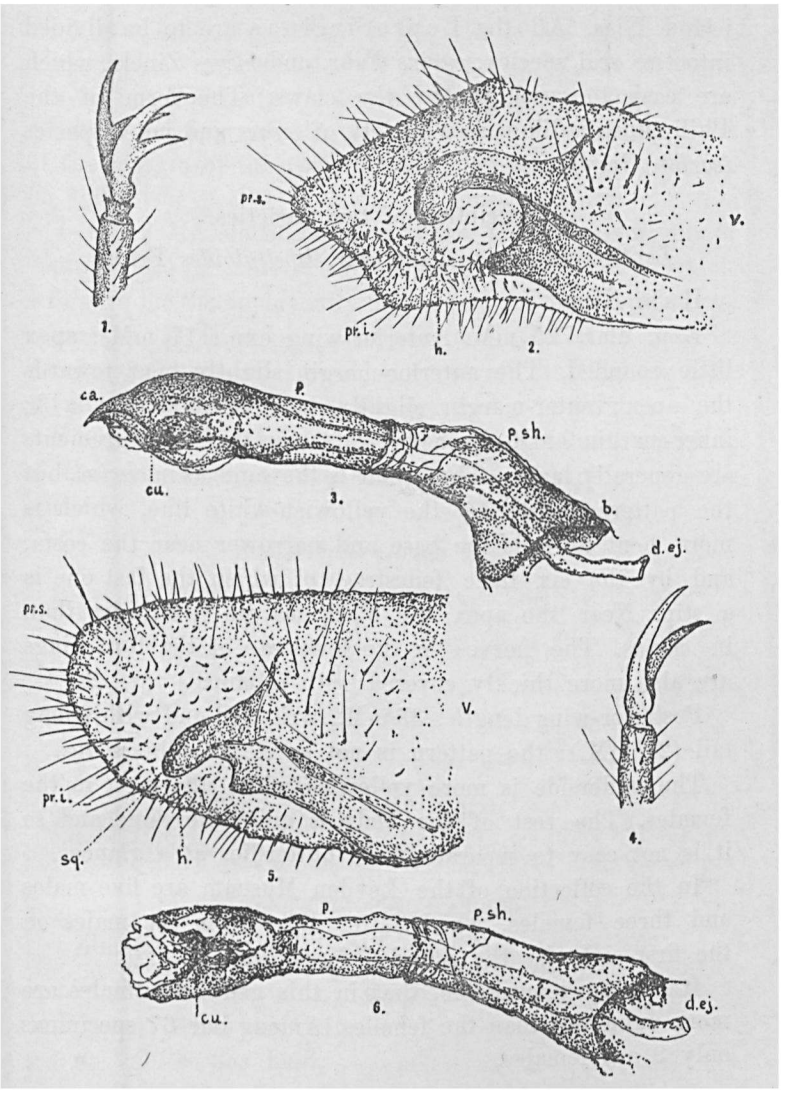


Fig. 1. Bifid claw of *Lept. curius* Fabr.

„ 2. The inside of the right-handed valva of *Lept. curius* Fabr.; pr. s. = processus superior; pr. i. = processus inferior; h. = harpe.

„ 3. Penis of *curius*; p. = penis-end; p. sh. = penis-sheath; b. = base; d. ej. = ductus ejaculatorius; ca. = carina; cu. = cuneus.

„ 4. Simple claw of *Lept. meges* Zinck.

„ 5. The inside of the right-handed valva of *meges*; sq. = squamae.

„ 6. Penis of *meges*.

island Nias. All the Leptocircinae are to be divided into two real species: *curius* Fabr. and *meges* Zinck., which are easy to recognize by the claws. The form of the Philippines is likewise a variety of *meges* and not a species (*corion* Gray).

Description of two varieties.

Leptocircus curius Fabr. var. *libelluloides* Fruhst.

Hab. Nias.

Exp. alar. 25 mM. Anterior-wing exp.: 17 mM.; apex little rounded. The anterior-margin slightly bent towards the apex; outer-margin slightly bent inside to media 3; inner-margin 9 mM. In the typical *curius* these measurements are generally larger. The colour is the same as in *curius*, but the pattern differs by the yellowish-white line, which is more bent towards the base and narrower near the costa, and by the six little fenestrae, of which the last one is a stip. Near the apex the black margin is broader than in *curius*. The nerves in the fenestrae of the fore-wings are also more thickly covered with squamae.

Posterior-wing length: 35 mM., wrinkled and with a long tail (21 mM.); the pattern is not so clear as in *curius*.

The underside is more yellowish white, the most in the females. The rest of the body is quite the same and so it is not easy to separate these butterflies at a glance.

In the collection of the Leyden Museum are five males and three females, which latter differ from the males on the first sight by the rounded fore-wings.

It is very remarkable, that in this genus the males are more numerous than the females. Among our 67 specimens only 9 are females.

Leptocircus meges Zinck. nov. var. *squamosus*.

Hab. Pulu Babi (near Simalur).

Exp. alar. 36 mM. — The difference between this specimen and the other ones is so clearly visible, that the plate is sufficient to recognize this form. It is remarkable, that the black coloured squamae have nearly shut the fenestrae,

of which four are well visible. The colour is of a fine, very dark, violet-brown, only variegated by the white of the narrow lines near the bases of the wings and by the red-brown colour of the tail. Moreover the white colour of the margin of the posterior-wing is pure and not greenish or yellowish.

I hope, Mr. Jacobson may have the good fortune to capture also a male specimen of this fine variety, which will give me the opportunity to examine the male copulatory-apparatus. It is a pity that our collection is so poor in female-specimens, so I could not cut off the three or four apical abdominal segments for systematic researches.

Finally I give here a list of the species and varieties of the genus *Leptocircus* with their geographical distribution.

Leptocircus curius Fabr.

Fabr. Ent. Syst. III. I. p. 28. 81.

Java, Sumatra, Assam, Siam, North-east China.

a. Var. *libelluloides* Fruhst.
Deuts. Ent. Zeits. 1890.
Nias.

b. Var. *Walkeri* Moore.
Lepid. Indica, V, p. 137 (1902).
South-east China, Tonkin, Hainan.

Leptocircus meges Zinck.

Zincken, Nov. Acta Acad. Nat. Cur. 15. p. 161.

Java, Sumatra, Simalur, Malacca, Biliton, Borneo, Celebes, Philippines, India till China.

a. Var. *ennius* Feld.
Reise Nov. Lep. I. p. 2. t. 21. b.
Celebes.

b. Var. *decius* Feld. (= *Wilsonii* Reak).
Wien. Ent. Mon. 6. p. 284. n. 37.
Philippines.

c. Var. *squamosus* v. Eecke.
Pulu Babi.

The varieties *virescens* Butler (Cat. Fabr. p. 259) and *niasicus* Jord. (Seitz, II, 2, p. 108) are not known to me. The var. *niasicus* will resemble the most the new variety *squamosus* by the density of the squamae on the fore-wings.

2. *Papilio Agamemnon* Linn. ♀. N°. 4002.
   Hab. Sinabang (Simalur).

3. *Papilio eurypylus* Linn., nov. var. *Heurni*. ♂. N°. 4003.
   Hab. Sinabang (Simalur).

The size, pattern and further habitus is that of *P. evemon* Boisd., but the colour is darker and the series of white spots is narrower. The principal characteristic of this variety is to be found on the underside of the posterior-wing, where the white spot in the cell is much invaded by pure black. One specimen from the island Nias shows the same modification though to a lower degree.

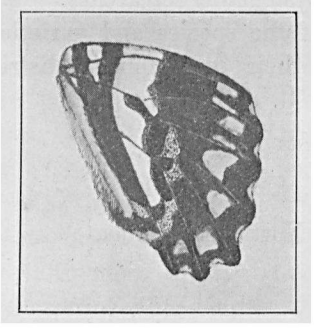


Fig. 7. Posterior-wing of *P. Heurni*, underside.
■ black and black-brown.
▩ red.
□ silvery white.

I have named this variety in honour of Mr. van Heurn, the zealous travelling companion of Mr. Jacobson.

4. *Papilio memnon* Linn. 3 ♂. Nos 4336—4338.
   Hab. Sinabang, Mata-n-amuren, Udjung Laukè (Simalur).

These three male specimens are to be recognized from all the other *memnons* in our collection, by the hind-wings, these being covered with blue squamae as far as the cells. Only near the outer-margin are blue-black conical spots between the nerves.

I have not bestowed a name upon this presumed variety, *P. memnon* being so much variegated. Moreover some transitional forms exist.

5. *Papilio Pammon* Linn. 10 ♀, 7 ♂. Nos 4004—4017, 4331, 146 and 147.
   Hab. Sinabang and Lasikin (Simalur).
   Nos 146 & 147 were captured in copulation.

6. *Papilio aristolochiae* Fabr. ♀, ♂. Nos 475 and 476.
   Hab. Lasikin (Simalur).
   Captured in copulation.

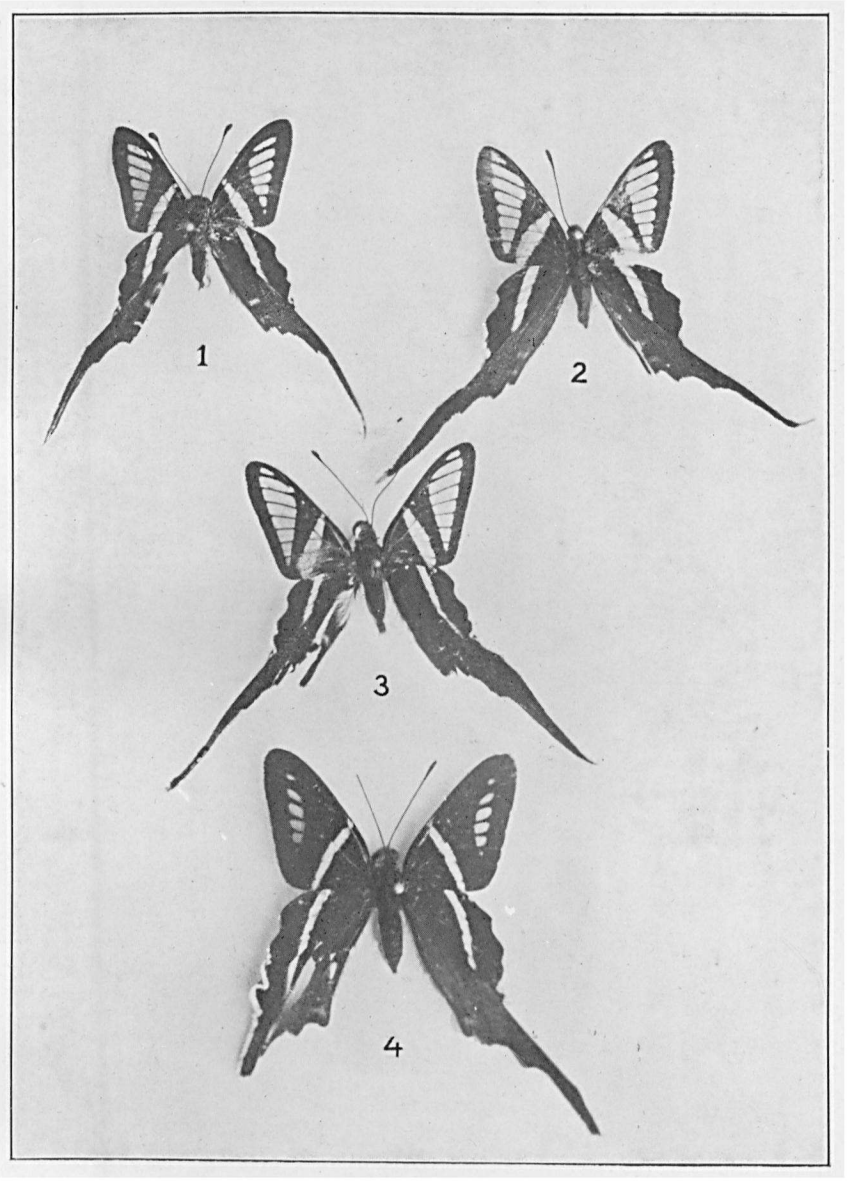
7. *Papilio Neptunus* Guér. 2 ♀, 4 ♂. Nos 4018, 4019, 4332—4335.
   Hab. Sinabang, Sibigo (Simalur).

8. *Pompeoptera Amphrysius* Cram. ♂. N°. 4020.
   Hab. Tandjung Rabang (Simalur).

Leyden Museum, October 1913.

Explanation of Plate 9.

1. *Leptocircus curius* Fabr. var. *libelluloides* Fruhst. ♂. Nias.
2. *Leptocircus curius* Fabr. var. *libelluloides* Fruhst. ♀. Nias.
3. *Leptocircus curius* Fabr. ♂. Sumatra.
4. *Leptocircus meges* Zinck. var. *squamosus* v. E. ♀. Pulu Babi.



LEPTOCIRCINAE.